No. 89-1079

IN THE

Supreme Court of the United States

OCTOBER TERM, 1989

PPG INDUSTRIES, INC.,
Petitioner,

v.

U.S. ENVIRONMENTAL PROTECTION AGENCY,
Respondent.

On Petition for a Writ of Certiorari to the United States Court of Appeals for the Fifth Circuit

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BRIEF FOR INTERVENOR RESPONDENT IN OPPOSITION

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February 7, 1990

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BRIEF FOR INTERVENOR RESPONDENT NATURAL RESOURCES DEFENSE COUNCIL[1] IN OPPOSITION

THE PETITION FOR A WRIT OF CERTIORARI SHOULD BE DENIED

PRELIMINARY STATEMENT

A decade and a half after the Clean Water Act required EPA to promulgate categorical effluent limitations and pretreatment standards to control the release of toxic pollutants from major

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[1] The Natural Resources Defense Council, Inc. (NRDC) has no parent companies, subsidiaries or affiliates.

industries,[2] EPA finally issued rules to control toxics from one of the nation's largest polluting industries–factories that produce organic chemicals, plastics and synthetic fibers (known collectively as the OCPSF industry).[3]

The Natural Resources Defense Council[4] has a longstanding interest in the OCPSF rule. After EPA's initial failure to regulate toxic pollutants from the OCPSF and other major industries, NRDC sued EPA over the agency's failure to implement fundamental Clean Water Act programs. This lawsuit culminated in 1976 in a detailed Consent Decree under which EPA agreed to promulgate these and other regulations.[5]

Under the original Consent Decree, the OCPSF regulations were due in 1979. That deadline was extended on multiple occasions. *See* note 4 *supra.* After EPA missed even these extended deadlines, Congress set its own December, 1986 deadline for issuance of the OCPSF rules. Water Quality Act of 1987, P.L. 100-4, 101 Stat. 7, section 301(f). Final regulations were not promulgated until November 19, 1987. 52 Fed. Reg. 42522.

The final regulation governs wastewater treatment and discharge requirements for approximately 1,000 industrial facilities that

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[2] Effluent limitations apply to factories that discharge their wastes directly into surface waters, 33 U.S.C. §1314, while pretreatment standards apply to industries that discharge pollutants into public sewage treatment plants. 33 U.S.C. §1317.

[3] Earlier regulations setting wastewater treatment requirements for the OCPSF industry were remanded to EPA by the U.S. Court of Appeals for the Fourth Circuit in 1976. *See* 52 Fed. Reg. 42522, 42526 (November 5, 1987). Thus, until the new OCPSF rule was promulgated in 1987, industry-wide treatment requirements for this industry were not in effect.

[4] NRDC was a Petitioner in the case below, successfully challenging some portions of the OCPSF rule as unduly lenient. NRDC also was an intervenor respondent and filed briefs in opposition to industry efforts to weaken the OCPSF rule.

[5] *Natural Resources Defense Council v. Train,* 8 E.R.C. 2120 (D.D.C. 1976), *modified* 12 E.R.C. 1833 (D.D.C. 1979) (hereafter "NRDC Consent Decree"). The Consent Decree was modified repeatedly by unpublished orders, including orders dated October 26, 1982, August 2, 1983, January 6, 1984, July 5, 1984, January 7, 1985, April 24, 1986, and January 8, 1987, to reflect further delays in EPA's regulatory program.

manufacture OCPSF products. 52 Fed. Reg. at 42525. EPA estimates that the regulations, once implemented, will result in the annual reduction of approximately 24 million pounds of toxic pollutants and 108 million pounds of conventional pollutants[6] discharged into the Nation's rivers, lakes and coastal waters.

The final rule was developed in a massive administrative rulemaking that stretched over ten years. Multiple opportunities were provided for the industry and other parties to comment on EPA's proposal, generating a rulemaking record in excess of 600,000 pages. *Chemical Manufacturers Association v. EPA,* 870 F.2d 177, 184 (5th Cir. 1989) (hereinafter "*CMA I*").[7]

The rule was challenged by a massive coalition of individual companies and trade associations, as well as NRDC.[8] Industry petitioners initially filed eighteen briefs totalling over 700 pages in an effort to discredit and invalidate EPA's national effluent standards for the entire OCPSF industry, based on a series of largely technical arguments.[9] This broadside challenge was almost entirely unsuccessful. In a detailed opinion that spans 90 pages of the Federal Reporter, the Fifth Circuit systematically reviewed and rejected *all* of industry's initial arguments, while remanding portions of the rules in response to NRDC's challenges. *See generally CMA I.* Undaunted, industry Petitioners filed Petitions for Rehearing with respect to many major issues in the case (including those that are the subject of this Petition for Writ of Certiorari). Once again, the

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[6] "Conventional pollutants" include biological oxygen demand (BOD), suspended solids, fecal coliform bacteria, pH and oil and grease. 33 U.S.C. §1314(a)(4); 44 Fed. Reg. 44501 (July 30, 1979).

[7] 9,000 pages from this record were excerpted into a Joint Appendix for the case, cited here as "J.A." Pages cited from the J.A. are appended hereto.

[8] NRDC filed its Petition in the Second Circuit; industry Petitions were filed in the Fifth Circuit. By lottery conducted pursuant to 33 U.S.C. §1369(b)(3), the cases were reviewed in industry's forum of choice.

[9] Ultimately, over 3,000 pages of briefs were filed. *CMA I* at 184. By contrast, while NRDC challenged selected portions of the rule, it asked for narrow relief only with respect to the deficient portions of the rule, and asked that the rules be held in place pending remand. *Id.*

Fifth Circuit systematically reviewed and rejected all but one of the industry claims.[10] *Chemical Manufacturers Association v. EPA*, 885 F.2d 253 (5th Cir. 1989) (hereinafter "*CMA II*").

Now, Petitioner PPG Industries once again seeks to paint a large mural with a fine brush. Relying largely on hypertechnical challenges to EPA's methodology for calculating these toxics limits, PPG asks once again to have this entire, long-awaited rulemaking invalidated. This latest challenge is highly ironic. After trying to invalidate EPA's entire rulemaking based on narrow technical arguments, the rest of the OCPSF industry has decided to go about the task of complying with rules that should have been issued years ago. For its part, while continuing to believe that many aspects of the rule are unduly lenient, NRDC has elected not to petition this Court to review those parts of NRDC's case not accepted by the Fifth Circuit. However, based on the alleged inability of *two plants* to meet effluent limitations for *two pollutants*, PPG continues to ask that the entire OCPSF rulemaking be invalidated. PPG has had more than its fair day in court, and this persistent frontal assault on EPA's rules should be stopped in its tracks.

SUMMARY OF ARGUMENT

In order to avoid burdening the Court with redundant papers, NRDC relies on Respondent EPA to address PPG's specific, technical arguments. Instead, NRDC's brief will concentrate on several broad themes. First, PPG's attempt to invalidate the entire OCPSF rule would result in serious continued harm to human health and the environment.

Second, industry's broadside assertion that the OCPSF regulations are not achievable must be judged in the context of a rulemaking in which EPA was, in NRDC's judgment, overly conservative in its editing procedures and statistical methodology. This caution produced excessively lax effluent standards for both toxic and conventional pollutants. NRDC's rulemaking comments on these concessions to industry were consistently rejected by EPA. Thus, the

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[10] EPA's rule was remanded with respect to selected pollutants.

final standards are easily achievable by the pertinent categories of dischargers.

Third, at bottom, PPG's arguments relate to complaints that individual facilities are unable to meet EPA's industry-wide, categorical limitations. These arguments are misplaced in the context of a national rulemaking. The only question here is whether the industry-wide limitations are achievable by the applicable categories as a whole. Congress, with the repeated approval of the Supreme Court, has provided that individual plant differences be accommodated by statutory variance provisions, particularly through the so-called fundamentally different factors (FDF) variance, rather than in the categorical standards.

Finally, the Court should be especially wary of accepting PPG's invitation to translate quite specific, narrow attacks on an industry-wide rule into a decision that would invalidate the rule in large part or in its entirety. The OCPSF industry has gone 16 years since the passage of the Act in 1972 without any applicable national regulations. Congress has twice spoken about the need to regulate this industry. EPA has spent more than ten years developing the OCPSF rule, and at last has produced a rule which, despite its conservatism, is a giant step forward in implementing the Clean Water Act by substantially reducing the discharge of toxic pollutants into the Nation's waters. The time has come to end this debate and move on to the task of complying with EPA's regulations.

ARGUMENT

I. VACATING THE OCPSF RULE WOULD ALLOW THE CONTINUED RELEASE OF MILLIONS OF POUNDS OF POLLUTANTS INTO THE NATION'S WATERS

The OCPSF rule will eliminate significant quantities of both conventional and toxic pollutants discharged by OCPSF facilities. Over one and one-half million pounds of toxics from direct dischargers,[11] and 22.6 million pounds per year of toxics from indirect

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[11] Final Development Document for Effluent Limitations Guidelines and Standards (continued...)

dischargers[12] (for a total of over 24 million pounds) reach U.S. waters and public sewers each year. For conventional pollutants, EPA estimates that the OCPSF industry currently discharges over 161 million pounds per year of BOD and suspended solids.[13]

Years of delay in issuing this rule have left a legacy of poisons in OCPSF discharges. Even making the conservative assumption that discharge levels have remained constant over time,[14] the magnitude of the impact on U.S. waters that has resulted from EPA's delay in completing the OCPSF rules is staggering. Approximately 204 *million* pounds of priority *toxic* pollutants, and over 1.36 *billion* pounds of conventional pollutants have found their way into U.S. waters and Publicly Owned Treatment Works (POTWs) during the 8 1/2 years that elapsed between the first date on which EPA promised to complete the OCPSF rule[15] and the date on which the rule actually was issued. Had this rule been adopted on schedule, approximately 9 1/2 *million pounds* of toxics would have been treated rather than

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[11](...continued)
for the Organic Chemicals, Plastics and Synthetic Fibers Point Source Category (EPA, October 1987) (hereafter Dev. Doc.) at VIII-272, J.A. at 4220.

[12] Dev. Doc. at VIII-274, J.A. at 4222.

[13] Dev. Doc. at VIII-236, J.A. at 4184. This industry's conventional pollutant discharges are 6 times those of both the petroleum refining and textile industries, 35 times those of the pharmaceuticals industry and 200 times those of leather tanners. *A Summary of the Benefit-Cost Analyses of the Final Effluent Limitation Guidelines for the Organic Chemicals, Plastics and Synthetic Fibers Industry, EPA, 1987,* J.A. at 6035.

[14] In the absence of national, uniform standards for the OCPSF industry, EPA and State permit writers have drafted permits for dischargers based on their best professional judgment, or BPJ. EPA theorizes that BPJ permits have resulted in improvements in waste treatment (and, presumably, smaller amounts of unchecked discharges). *See* 52 Fed. Reg. at 42534.

[15] The initial NRDC Consent Decree called for promulgation of the OCPSF rule in June 1979. *Natural Resources Defense Council v. Train,* 8 E.R.C. at 2125-26 and Appendix B.

discharged to surface waters;[16] and over 191 *million pounds* of toxics would not have found their way to U.S. POTWs.[17] Similarly, another 918 *million pounds* of conventional pollutants would have been treated rather than discharged had the rule been in effect.

Vacating and remanding this rule would allow the OCPSF industry to continue to operate *without* national standards for another extended time period.[18] This would raise still more significant water quality and human health concerns due to the continued release into the environment of major quantities of toxic and conventional pollutants. Many of these pollutants can cause death, cancer, birth defects, brain damage or other serious health effects. All of them are injurious to aquatic life.

In the absence of a BAT rule, direct dischargers will continue to be subject to permits based on Best Professional Judgment, or BPJ. 33 U.S.C. §1342(a). But experience has shown that these permits do not result in pollutant reductions of a level comparable to a national BAT standard. The record in this rule shows that, despite years of BPJ permit-writing in the OCPSF industry, over two-thirds of the remaining toxics directly discharged each year still remain to be eliminated by implementation of BAT.[19] Indeed, in the Preamble to the final rule EPA stated that "a large portion of the industry

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[16] *See* 52 Fed. Reg. at 42530. EPA anticipates a reduction from BAT implementation of nearly 70%, from 1.6 million pounds to .49 million pounds per year.

[17] *Id.* EPA anticipates a reduction from pretreatment implementation of over 99%, from 22.6 million pounds to .08 million pounds per year.

[18] The rulemaking record in this case and other similar instances suggests a strong likelihood of significant delay if EPA is required to begin rulemaking anew. The Development Document discusses the lengthy history of the delay in promulgating the OCPSF rule. EPA originally promulgated Phase I OCPSF rules in April of 1974 and Phase II rules in 1975 and 1976. Dev. Doc. at I-5, J.A. at 3430. The rules were challenged, and remanded in part and withdrawn in part in 1976. *Id. Since 1976* no national standard has been in place. *Id.* EPA took until 1983–seven years–even to propose another rule after the 1976 remand. *Id.* at I-6. EPA took an *additional* 4 2/3 years to promulgate the final rule. 52 Fed. Reg. 42522.

[19] *See* 52 Fed. Reg. at 42530. Toxics discharges are expected to decrease from 1.6 million lbs/yr. to .49 million lbs/year when the rule is implemented, a decrease of about 70%.

does not have well-designed, well-operated BAT treatment in place."[20] Clearly, existing BPJ permits have not been achieving pollutant reductions commensurate with the best available technology.

The absence of a national pretreatment rule will have an even more profound impact on water quality. The lack of pretreatment standards over the past decade has given indirect dischargers a virtual regulatory free ride. Because they are not subject to national permitting regulations (and with only the general pretreatment program regulations and "local limits" imposed by POTWs to control their activities) indirect dischargers have poured enormous quantities of toxic pollutants largely unchecked into POTWs. EPA found that most indirect dischargers had installed no pretreatment other than simple physical/chemical treatment, and many had installed virtually no treatment at all. As a result of years of non-regulation, the quantity of pollutants attributable to indirect dischargers is wholly disproportionate to their share of the OCPSF industry as a whole: whereas indirect dischargers represent 42% of the plants in the industry,[21] they are responsible today for an estimated 93% of the toxics discharged.[22]

For this reason, a wholesale remand of the pretreatment standards would be enormously harmful to the environment. It would leave that 93% of still-unregulated toxics beyond the reach of the categorical standards. Unlike direct discharges, which must comply with BPJ permit limits, absent national pretreatment standards indirect discharges are subject to no minimum technology-based requirements.[23]

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[20] 52 Fed. Reg. 42557.

[21] 52 Fed. Reg. 42526.

[22] 22.6 million pounds, versus 1.6 million pounds from direct dischargers. 52 Fed. Reg. at 42530.

[23] Moreover, a remand would continue to place indirect dischargers at an unfair competitive advantage in relationship to the directly-discharging OCPSF facilities. Industry's free ride, of course, is inappropriately on the shoulders of publicly-financed treatment facilities and their ratepayers.

II. INDUSTRY'S ATTACKS ON EPA'S METHODOLOGY AND TREATMENT TECHNOLOGY DO NOT ESTABLISH THAT THE EFFLUENT LIMITATIONS CANNOT BE ACHIEVED

A. EPA's BAT Limitations Are Extremely Conservative

PPG attacks the OCPSF regulation under the rubric of achievability—that is, PPG claims that the limitations established by the regulation cannot be achieved using the model technologies. Throughout this litigation, EPA has more than adequately defended its specific statistical techniques and selection of technologies challenged by industry.

There is, however, a larger point that has concerned NRDC from the outset of this rulemaking, and should help the Court consider industry's challenges in the proper context. EPA has been far "kinder and gentler" to industry than necessary under the Clean Water Act. By importing several exceedingly conservative assumptions into its selection of methodologies and technologies, EPA has raised the BAT limits imposed by the OCPSF regulation so that they are easily achievable.

The record is replete with examples of EPA's generous treatment of the OCPSF industry in light of the Clean Water Act's command that BAT limitations force innovative technology that "will result in reasonable further progress toward the goal of eliminating the discharge of all pollutants." 33 U.S.C. §1311(b)(2)(A).[24] The legislative history of the Clean Water Act and subsequent case law implement this technology-forcing mandate by specifying that BAT regulations should be based on the *single best performer* in the industry, or the "optimally operating plant...." *Kennecott Copper Corp. v. EPA*, 780 F.2d 445, 448 (4th Cir. 1985), *cert. denied sub nom. American Mining Congress v. Thomas*, 107 S.Ct. 67 (1986); 1972 Leg. Hist. at 1468-69.

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[24] *See also, A Legislative History of the Water Pollution Control Act Amendments of 1972*, Cong. Research Service, Comm. Print No. 1, 93d Cong., 1st Sess., 170, 1460. This Committee Print contains two volumes and will hereafter be cited as "1972 Leg. Hist. at ___."

Despite these admonitions, EPA set limits that do not represent the single best performer, but instead reflect *averages* from groups of mediocre to good performers. For example, EPA set limits on most toxic pollutants based on the median of a group of good performers rather than the best plant. *See* Dev. Doc. at VII-142, J.A. at 3842. During the rulemaking, NRDC commented that this technique was overly conservative and indeed contrary to the Clean Water Act. NRDC Comments at 21 (Dec. 1985), J.A. at 1961. EPA nevertheless exercised extreme caution and persisted in this technique in the final rule.

Similarly, in calculating the variability factors for each BAT pollutant, EPA excluded from the data base information from the best performing plants—that is those plants that consis-tently treated pollutants so well that they could not be detected in the plant effluent. J.A. at 5178-82. The result is that long-term averages and variability factors include data only from the worst 30% of a large set of plants in EPA's BAT data base.

Also, when a pollutant was undetectable in a plant's effluent because it had been treated to below the level of detectability, EPA assigned the pollutant a value equal to the minimum detectability level. Consequently, the highest possible value was assigned to all nondetectable pollutants rather than the actual value, thus inflating the averages ultimately calculated by EPA. NRDC also objected to this type of editing technique, without effect. NRDC Comments at 11-12 (Aug. 17, 1983), J.A. at 406-407.

The effect of these conservative assumptions and techniques was to produce BAT limits far above what the best performer in the industry can in fact achieve. NRDC believes this is contrary to the requirements of the Clean Water Act, but refrained from challenging the regulations on these grounds because of its desire to see nationwide, categorical regulations for the OCPSF industry in place at long last. PPG should not be permitted to upset the rule by nitpicking with other aspects of EPA's methods when EPA was overly conservative in the first place.

B. EPA's Effluent Limitations Do Not Presume Violations

EPA's chronic use of conservative assumptions and statistical techniques similarly defuses industry's complaint that effluent limitations based on 95% and 99% statistical certainty for BPT and BAT respectively presume a certain amount of noncompliance, allegedly exposing dischargers to unfair civil and criminal liability. In fact, as EPA amply notes in its brief, EPA's use of variability factors and the provision of an "upset" defense insulate industry from possible violations. *See* 40 C.F.R. §122.41(n). Well-operated plants should have no trouble avoiding violations of effluent limitations. Indeed, this precise issue already has been resolved in EPA's favor in a number of cases.[25]

In fact, however, EPA understates its case. Because the BPT and BAT effluent limitations were calculated with a high degree of conservatism, dischargers should have even less trouble meeting the limits set by EPA. BPT limits are supposed to be defined by the "average of the best" dischargers in the industry. Yet EPA determined BPT based on average or below-average, rather than average of the best, treatment effectiveness. BAT limits are supposed to be defined by the single best performer in the industry. Yet as explained above, EPA defined BAT by reference to averages and variability factors. Ironically, industry now claims that the very statistical techniques used in these averaging calculations impose an unfair burden and dictate limits that cannot be met at all times. Thus, for example, the 99% degree of certainty for BAT now complained about by industry in fact improperly reflects 99% certainty about average—rather than the statutorily-mandated best—treatment capability. Rather than complaining about unfair treatment obligations, industry should be thanking EPA for bending over backwards to employ highly conservative calculations.

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[25] *E.g., American Petroleum Inst. v. EPA*, 661 F.2d 340, 350-53 (5th Cir. 1981); *Weyerhaeuser Co. v. Costle*, 590 F.2d 1011, 1056-58 (D.C. Cir. 1978); *United States Steel Corp. v. Train*, 556 F.2d 822, 841-42 (7th Cir. 1977).

III. ASSERTIONS THAT PARTICULAR DISCHARGERS CANNOT MEET THE NATIONWIDE CATEGORICAL LIMITATIONS ARE PROPERLY THE SUBJECT OF A VARIANCE REQUEST RATHER THAN AN ATTACK ON THE CATEGORICAL RULE

PPG argues that two individual plants cannot meet specific limitations for two pollutants (one each). Similar arguments were raised by other Petitioners below with respect to equally narrow claims that now have been abandoned. This argument ignores Congress' directive that EPA create uniform, nationwide categorical standards, and account for plant-specific diversity through one of the many carefully crafted variance procedures Congress inserted in the Act.

From the inception of the 1972 amendments that became the Clean Water Act, EPA and NRDC took the position that EPA was required to issue nationwide, categorical effluent standards on an industry-wide basis. By contrast, industry asserted that limits should be set on a plant-by-plant basis. This controversy produced the Supreme Court's seminal decision in *E.I. duPont de Nemours & Co. v. Train,* 430 U.S. 112 (1977), which charted the course of Clean Water Act implementation. In upholding the EPA/NRDC view, the Supreme Court relied heavily on the substantial legislative history demonstrating that in 1972 Congress intended to jettison the failed procedure of setting effluent limits on a site-specific, water quality basis in favor of technology-based limitations by industrial category, and to apply the limits uniformly to all dischargers in each category. *Id.* at 121, 126-127, 129. *See generally,* 1972 Leg. Hist. at 169, 1422-26, 1460, 1468; *EPA v. California ex rel. State Water Resources Board,* 426 U.S. 200, 202-205 (1976).

More specifically, the Supreme Court sanctioned categorical effluent limitations "as long as some allowance is made for variations in individual plants, as EPA has done by including a variance clause in its 1977 limitations." 430 U.S. at 128.

The Supreme Court has subsequently reaffirmed the categorical statutory scheme in the context of uniform limitations, tempered by variances, applied to both direct and indirect dischargers. *EPA v. National Crushed Stone Association,* 449 U.S. 64, 80 (1980); *Chemical Manufacturers Association v. NRDC,* 470 U.S. 116, 131-133

(1985). In the latter case, the Court specifically noted that variance provisions were included so that categorical rules would not be overturned because EPA neglected to consider plant-specific differences in the national rulemaking. *Id.* at 133.

Following the Supreme Court's lead, numerous Courts of Appeal have relied on the availability of an FDF variance to reject challenges to nationwide, categorical limits based on plant-specific factors. *See, e.g., Kennecott Copper Corp. v. EPA,* 612 F.2d 1232, 1244-45 (10th Cir. 1979); *BASF Wyandotte Corp. v. Costle,* 598 F.2d 637, 656 (1st Cir. 1979), *cert. denied,* 444 U.S. 1096 (1980); *Weyerhaeuser Co. v. Costle,* 590 F.2d 1011, 1040-41, 1048 n. 56 (D.C. Cir. 1978).

Finally, in 1987 Congress embedded the FDF variance procedure in the Clean Water Act, thus codifying EPA's consistent practice and the Supreme Court's pronouncements. 33 U.S.C. §1311(n). Congress was quite specific that the FDF variance is intended as a "safety valve" that enables plant-specific variations to be separately accommodated outside the categorical rulemaking process. According to the Congress,

> [T]here are two approaches for responding to a facility with valid grounds for arguing that it is fundamentally different from other facilities in its category. One possibility is to develop a separate subcategory within the regulation, undertake a separate data collection and analysis effort and then repropose and issue the final rule. The other alternative is to leave the national rule in place and use the FDF determination procedure to establish alternative technology-based limitations for the facility that accurately reflect its situation. The subcategorization approach would add further complications and require potentially substantial additional time in developing what are already extraordinarily complex and detailed national regulations. By contrast, the FDF determination procedure allows both implementation of the national rule and consideration of individual petitions claiming unique factors.

H.R. Rep. No. 189, 99th Cong., 1st Sess. 26 (1985).

This Court should relegate to the FDF variance procedure all challenges to the categorical rule based on unique plant circumstances, in accordance with the direction of Congress and the

Supreme Court. Indeed, most of the Petitioners who have asserted claims based on plant-specific factors already have variance applications pending before EPA. *See* EPA Addendum at A.

CONCLUSION

For the above reasons, PPG's frontal assaults on EPA's OCPSF regulation should be rejected, and the Petition for Certiorari should be denied. The public already has waited far too long for the industry that discharges the largest quantities of pollutants into the Nation's rivers, lakes and coastal waters to be regulated by nationwide water pollution controls.

Respectfully submitted,

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TABLE VIII-107(CONT.)
BAT WASTEWATER TOXIC POLLUTANT LOADINGS

CHEMNUM	CHEMNAME	RAW WASTE LOAD(LBS/YR)	CURRENT LOAD(LBS/YR)	BAT OPTION I LOAD(LBS/YR)	BAT OPTION II LOAD(LBS/YR)	BAT OPTION III LOAD(LBS/YR)
66	BIS-(2-ETHYLHEXYL) PHTHALATE	187707	6210	5402	5402	1546
67	BUTYLBENZYL PHTHALATE	4986	2749	2616	2616	872
68	DI-N-BUTYL PHTHALATE	99106	2306	1584	1584	930
69	DI-N-OCTYL PHTHALATE	7147	1961	1686	1686	738
70	DIETHYL PHTHALATE	84327	3577	2735	2735	717
71	DIMETHYL PHTHALATE	323733	1459	1067	1067	1067
72	BENZO(A)ANTHRACENE	2784	801	499	499	499
73	BENZO(A)PYRENE	1004	636	517	517	517
74	BENZO-3-FLUORANTHENE	703	501	425	425	425
75	BENZO(K)FLUORANTHENE	1134	484	389	389	389
76	CHRYSENE	22399	1201	932	932	932
77	ACENAPHTHYLENE	136631	4446	2847	2847	2847
78	ANTHRACENE	75063	6224	2174	2174	2174
79	BENZO(GHI)PERYLENE	2066	965	929	929	929
80	FLUORENE	406247	5347	2867	2867	2867
81	PHENANTHRENE	309952	3308	2110	2110	2110
82	DIBENZO(A,H)ANTHRACENE	2040	492	458	458	458
83	INDENO(1,2,3-C,D)PYRENE	820	567	557	557	557
84	PYRENE	36539	2839	1599	1599	1459
85	PERCHLOROETHYLENE	75217	2374	1279	1279	1279
86	TOLUENE	4077645	33313	5497	5497	5497
87	TRICHLOROETHYLENE	241515	3985	2237	1758	1758
88	CHLOROETHYLENE	65897	28808	28789	28808	28808
114	ANTIMONY (TOTAL)	36039	10765	9359	9359	9359
119	CHROMIUM (TOTAL)	857868	66044	59519	59519	59519
120	COPPER (TOTAL)	3027365	66908	51359	51359	51359
121	CYANIDE (TOTAL)	5567735	28017	19561	19561	19561
122	LEAD (TOTAL)	3662889	14480	10508	10508	10508
128	ZINC (TOTAL)	18105273	808370	257668	121707	121707
		151846052	1597940	710316	490345	436261

TABLE VIII-108(CONT.)
PSES WASTEWATER TOXIC POLLUTANT LOADINGS

CHEMNUM	CHEMNAME	RAW WASTE LOAD(LBS/YR)	CURRENT LOAD(LBS/YR)	PSES OPTION IV LOAD(LBS/YR)
77	ACENAPHTHYLENE	8739	4699	251.2
78	ANTHRACENE	1716	1650	135.5
79	BENZO(GHI)PERYLENE	121	116	52.4
80	FLUORENE	3229	2734	128.9
81	PHENANTHRENE	6960	6448	136.2
84	PYRENE	1743	1647	112.4
85	PERCHLOROETHYLENE	460	444	175.1
86	TOLUENE	914921	896498	1150.2
87	TRICHLOROETHYLENE	11932	11388	222.2
88	CHLOROETHYLENE	28519	26226	1706.0
114	ANTIMONY (TOTAL)	6756	6417	1671.6
120	COPPER (TOTAL)	2798484	2709650	23944.1
121	CYANIDE (TOTAL)	4200150	4055380	2530.5
122	LEAD (TOTAL)	124487	112139	2453.0
124	NICKEL (TOTAL)	54665	53949	2424.6
128	ZINC (TOTAL)	525758	438349	9775.6
		********	********	*******
		28093733	22568540	81378.5

TABLE VIII-98.
SUMMARY OF LINER, MONITORING, AND
ADMINISTRATIVE RCRA BASELINE COSTS

Plant No.	Liner Cost Installed ($)	Monitoring Cost ($)	Administrative Cost* ($/year)
190	89,520	35,701	25,044
250	57,380	35,701	18,616
293	72,300	35,701	21,600
296	121,700	71,402	38,620
392	17,900	35,701	10,720
415	746,000	142,804	177,761
500	389,600	35,701	85,060
523	18,360	35,701	10,812
662	1,083,000	107,103	238,021
683	418,900	71,402	98,060
695	3,834,000	285,608	823,922
819	116,600	35,701	30,460
844	113,200	35,701	29,780
851	223,200	35,701	51,780
876	81,260	35,701	23,392
908	286,900	35,701	64,520
1069	91,120	35,701	25,364
1133	149,200	35,701	36,980
1494	479,400	71,402	110,160
1522	1,089,000	178,505	253,501
1656	5,057	35,701	8,152
1688	276,800	35,701	62,500
1753	758,600	71,402	166,000
1769	4,069,000	642,618	942,324
1797	81,380	35,701	23,416
1890	155,400	35,701	38,220
1911	248,300	71,402	63,940
2070	59,720	35,701	19,084
2110	57,250	35,701	18,590
2123	12,640	35,701	9,668
2148	2,368,000	35,701	480,740
2227	915,000	71,402	197,280
2668	4,023	35,701	7,945
2297	2,828	35,701	7,706
2345	110,200	35,701	29,180
2390	10,870	35,701	9,314
2481	211,600	35,701	49,460
2527	114,900	35,701	30,120
2609	10,780	35,701	9,296
2673	73,250	35,701	21,790
2680	9,196	35,701	8,979
2739	669,000	35,701	140,940

*Administrative Cost = 20% of Liner Cost + 20% of Monitoring Cost

Table 5-3

-6035-

Summary of National Pollutant Loadings from Point Sources [a, b]

(in pounds per day)

Industry	Total Suspended Solids (TSS)	Biological Oxygen Demand (BOD)	Priority Organic Pollutants	Priority Inorganic Pollutants
Aluminum Forming	727	--	--	63
Battery Manufacturing	11	--	--	2
Coal Mining	1,672,004	--	133	7,401
Coal Coating	113	--	0	7
Copper Forming	223	--	11	34
Electrical	1,282	--	75	193
Foundries	197	--	21	64
Inorganic Chemicals	60,883	--	--	767
Iron & Steel	135,470	--	262	1,851
Leather Tanning	1,944	1,173	6	67
Metal Finishing	54,348	--	162	6,555
Nonferrous Metals	199	--	3	132
Nonferrous Metals Forming	18	--	--	2
Ore Mining	95,845	--	--	12,616
OCPSF[c]	398,349	245,956	2,367[d]	3,696[d]
Pesticides	--	--	--	--
Petroleum Refining	67,957	35,150	103	796
Pharmaceuticals	9,888	7,670	63	70
Plastics Molding & Forming	3,593	2,604	124	95
Porcelain Enameling	179	--	--	31
POTWs[c]	7,254,450	7,466,130	25,720	22,357
Pulp & Paper	889,338	541,732	3,355	8,166
Textiles	72,842	33,273	691	1,438
TOTAL:	10,719,860	8,333,688	33,096	67,262

[a] Figures taken from Summary of Effluent Characteristics and Guidelines for Selected Industrial Point Source Categories: Industrial Status Sheets. Interim Final Report, vol. 1. Office of Water Regulations and Standards, U.S. EPA, Feb. 1986.

[b] All industrial point sources are assumed to be at BAT with the exception of Pesticides (for which no data were available) and the OCPSF industry whose loadings are assumed to be current (i.e. with current treatment in place).

[c] POTW priority pollutant loadings are taken from the Report to Congress on the Discharge of Hazardous Waste to Publicly Owned Treatment Works, Office of Water Regulations and Standards, U.S. EPA, Feb. 1986. TSS and BOD loadings were taken from EPA's 1984 "Needs Survey."

[d] OCPSF pollutant loadings, shown in Appendix A, assume 250 operating days per year.

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B. HISTORY OF OCPSF RULEMAKING EFFORTS

EPA originally promulgated effluent limitations guidelines and standards for the organic chemicals manufacturing industry in two phases. Phase I, covering 40 product/processes (a product that is manufactured by the use of a particular process -- some products may be produced by any of several processes), was promulgated on April 25, 1974 (39 FR 14676). Phase II, covering 27 additional product/processes, was promulgated on January 5, 1976 (41 FR 902). The Agency also promulgated effluent limitations guidelines and standards for the plastics and synthetic fibers industry in two phases. Phase I, covering 13 product/processes, was promulgated on April 5, 1974 (39 FR 12502). Phase II, covering eight additional product/processes, was promulgated on January 23, 1975 (40 FR 3716).

These regulations were challenged, and on February 10, 1976, the Court in Union Carbide v. Train, 541 F.2d 1171 (4th Cir. 1976), remanded the Phase I organic chemicals regulation. EPA also withdrew the Phase II organic chemicals regulation on April 1, 1976 (41 FR 13936). However, pursuant to an agreement with the industry petitioners, the regulations for butadiene manufacture were left in place. The Court also remanded the Phase I plastics and synthetic fibers regulations in FMC Corp. v. Train, 539 F.2d 973 (4th Cir. 1976) and in response EPA withdrew both the Phase I and II plastics and synthetic fibers regulations on August 4, 1976 (41 FR 32587) except for the pH limitations, which had not been addressed in the lawsuit. Consequently, only the regulations covering butadiene manufacture for the organic chemicals industry and the pH regulations for the plastics and synthetic fibers industry have been in effect to date. These regulations were superseded by the regulations described in this report.

In the absence of promulgated, effective effluent limitations guidelines and standards, OCPSF direct dischargers have been issued National Pollutant Discharge Elimination System (NPDES) permits on a case-by-case basis using best professional judgment (BPJ), as provided in Section 402(a)(1) of the CWA.

Subsequent to the withdrawal/suspension of the national regulations cited above, studies and data-gathering were initiated in order to provide a basis

TABLE VII-46.
SUMMARY OF THE LONG-TERM WEIGHTED AVERAGE EFFLUENT CONCENTRATIONS FOR THE FINAL BAT TOXIC POLLUTANT DATA BASE FOR BAT SUBCATEGORY ONE

Pollutant Number	Pollutant Name	Number of Plants	Median of Est. Long-Term Means (ppb)	Minimum of Est. Long-Term Means (ppb)	Maximum of Est. Long-Term Means (ppb)
1	Acenaphthene	3	10.000	10.000	13.00
3	Acrylonitrile	5	50.000	50.000	122.67
4	Benzene	17	10.000	10.00	16.62
5	Carbon Tetrachloride	3	10.000	10.00	10.00
7	Chlorobenzene	2	10.000	10.00	10.00
8	1,2,4-Trichlorobenzene	3	42.909	10.00	69.66
9	Hexachlorobenzene	1	10.000	10.00	10.00
10	1,2-Dichloroethane	9	25.625	10.00	1228.33
11	1,1,1-Trichloroethane	2	10.000	10.00	10.00
12	Hexachloroethane	1	10.00	10.00	10.00
14	1,1,2-Trichloroethane	1	10.00	10.00	10.00
15	Chloroethane	4	50.00	50.00	50.00
16	Chloroform	8	12.208	10.00	43.00
24	2-Chlorophenol	3	10.000	10.00	21.3
25	1,2-Dichlorobenzene	7	47.944	10.00	88.25
26	1,3-Dichlorobenzene	1	24.800	24.80	24.80
27	1,4-Dichlorobenzene	1	10.000	10.00	10.00
29	1,1-Dichloroethylene	5	10.000	10.00	11.60
30	1,2-Trans-dichloroethylene	1	10.000	10.00	77.67
31	2,4-Dichlorophenol	3	17.429	10.00	21.62
32	1,2-Dichloropropropane	6	121.500	23.19	923.00
33	1,3-Dichloropropene	3	23.000	10.25	63.33
34	2,4-Dimethylphenol	4	10.794	10.00	23.47
35	2,4-Dinitrotoluene	2	58.833	10.00	107.67
36	2,6-Dinitrotoluene	3	132.667	10.00	255.33
38	Ethylbenzene	14	10.000	10.00	10.00
39	Fluoranthene	3	11.833	10.00	15.50
41	Bis(2-Chloroisopropyl)Ether	1	156.667	156.67	156.67
44	Methylene Chloride	8	22.956	10.00	206.67
45	Methyl Chloride	1	50.000	50.00	50.00
51	Hexachlorobutadiene	1	10.000	10.00	10.00

controls. It also lumped plants with "good" biological treatment (as discussed earlier, pp. 5-8) together with those with less effective biological treatment. EPA then repeated the error in its BPT methodology: it compared end-of-pipe effluent concentrations without assessing the "improvement" that in-plant or post-biological treatment can provide. [Pages 15 to 18 of these comments discuss the substantial improvement, at least for conventional pollutants, that post-biological treatment can provide. In-plant controls also substantially improve plant influent, justifying, in EPA's view, a 20 ppb cutoff over the 100 ppb cutoff used for plants without such controls. 50 Fed. Reg. at 29080.]

The analysis required by the statute, however, is this: what can a plant using effective in-plant controls, good biological treatment, and post-biological treatment accomplish? EPA did not segregate plants according to their effectiveness at each of these three treatment stages. Nor did EPA attempt to define the improvement in effluent quality that exemplary pre-biological or post-biological treatment can provide. Hence, EPA has not defined BAT at all. EPA must reanalyze its data base so that EPA can answer the question posed by Congress: what can the "best" control(s) accomplish?

Third, EPA based its proposed BAT effluent limits on the median performance of all plants in the data base. In short, EPA took an average of the plants in its database, rather than pegging BAT to the best performer. EPA also averaged variability factors. Such averaging patently violates the law.

MODIFICATION TO DELTA-LOGNORMAL (DLN) DISTRIBUTION FOR VARIABILITY FACTORS -- ESTIMATED LONG-TERM AVERAGES (LTA) FOR MEAN LEVELS OPTION II TOXICS (BAT SUBCATEGORY ONE)
DAILY DATA BASE USED FOR VARIABILITY FACTORS: 8-PLANT STUDY, 18-PLANT STUDY, AND PLANTS 267P AND 1783P FROM PUBLIC COMMENTS
PLANT-POLLUTANT COMBINATIONS FOR WHICH NO DETECTS ARE PRESENT IN DAILY DATA BASE

POLLUTANT NUMBER	POLLUTANT NAME	PLANT	EFFLUENT SAMPLING SITE	NUMBER OF NONDETECTS
1	ACENAPHTHENE	12P	EFF	7
1	ACENAPHTHENE	1293T	SCE	18
3	ACRYLONITRILE	948P	EFF	32
3	ACRYLONITRILE	2836T	SCF	18
4	BENZENE	12P	EFF	7
4	BENZENE	384T	FINE	18
4	BENZENE	1293T	SCE	18
6	CARBON TETRACHLORIDE	728T	SCF	14
7	CHLOROBENZENE	2394T	SCE	20
8	1,2,4-TRICHLOROBENZENE	2313T	SCE	10
9	HEXACHLOROBENZENE	728T	SCF	14
10	1,2-DICHLOROETHANE	3033T	BPF	12
12	HEXACHLOROETHANE	728T	SCF	14
14	1,1,2-TRICHLOROETHANE	418T	B2-A	18
14	1,1,2-TRICHLOROETHANE	2631P	EFF	24
16	CHLOROETHANE	418T	B2-A	18
16	CHLOROETHANE	2631P	EFF	24
23	CHLOROFORM	728T	SCF	14
27	1,4-DICHLOROBENZENE (P-DICHLOROBENZENE)	2394T	SCE	20
29	VINYLIDENE CHLORIDE	948P	EFF	33
29	VINYLIDENE CHLORIDE	2631P	EFF	24
30	1,2-TRANSDICHLOROETHYLENE	418T	B2-A	18
30	1,2-TRANSDICHLOROETHYLENE	2631P	EFF	24
34	2,4-DIMETHYLPHENOL	1293T	SCE	18
38	ETHYLBENZENE	12P	EFF	7
38	ETHYLBENZENE	384T	FINE	18
38	ETHYLBENZENE	948P	EFF	33
38	ETHYLBENZENE	1753P	EE11A	7
38	ETHYLBENZENE	2394T	SCE	20
38	ETHYLBENZENE	2536T	SCF	18
38	ETHYLBENZENE	2631P	EFF	24
44	DICHLOROMETHANE	418T	B2-A	18
45	CHLOROMETHANE	728T	SCF	14
52	HEXACHLOROBUTADIENE	728T	SCF	14
55	NAPHTHALENE	384T	FINE	18
55	NAPHTHALENE	1293T	SCE	18
55	NAPHTHALENE	3033T	BPF	12
56	NITROBENZENE	2481P	EFF	30
58	4-NITROPHENOL	2313T	SCE	10
58	4-NITROPHENOL	2394T	SCE	20
59	2,4-DINITROPHENOL	2481P	EFF	7
65	PHENOL	384T	FINE	18
65	PHENOL	1293T	SCE	18
65	PHENOL	2836T	SCF	18
71	DIMETHYL PHTHALATE	948P	EFF	22
72	BENZO(A)ANTHRACENE	1293T	SCE	18
75	BENZO(K)FLUORANTHENE	1293T	SCE	18

MODIFICATION TO DELTA-LOGNORMAL (DLN) DISTRIBUTION FOR VARIABILITY FACTORS -- ESTIMATED LONG-TERM AVERAGES (LTA) FOR MEAN LEVELS
OPTION 1/ TOXICS (BAT SUBCATEGORY ONE)
DAILY DATA BASE USED FOR VARIABILITY FACTORS: 5-PLANT STUDY, 12-PLANT STUDY, AND PLANTS 267P AND 1753P FROM PUBLIC COMMENTS
PLANT-POLLUTANT COMBINATIONS FOR WHICH NO DETECTS ARE PRESENT IN DAILY DATA BASE

POLLUTANT NUMBER	POLLUTANT NAME	PLANT	EFFLUENT SAMPLING SITE	NUMBER OF NONDETECTS
76	CHRYSENE	384T	FINE	15
76	CHRYSENE	1293T	SCE	15
77	ACENAPHTHYLENE	1293T	SCE	15
78	ANTHRACENE	1293T	SCE	15
80	FLUORENE	1293T	SCE	15
81	PHENANTHRENE	1293T	SCE	15
85	PERCHLOROETHYLENE	3033T	SPF	12
86	TOLUENE	1EF	EFF	7
86	TOLUENE	384T	FINE	15
86	TOLUENE	1293T	SCE	15
86	TOLUENE	2394T	SCE	20
86	TOLUENE	2631F	EFF	24
87	TRICHLOROETHYLENE	415T	SE-A	15
87	TRICHLOROETHYLENE	2631F	EFF	24
88	CHLOROETHYLENE	725T	SCF	14

MODIFICATION TO DELTA-LOGNORMAL (DLN) DISTRIBUTION FOR VARIABILITY FACTORS -- ESTIMATED LONG-TERM AVERAGES (LTA) FOR MEAN LEVELS
OPTION II TOXICS (BAT SUBCATEGORY ONE)
DAILY DATA BASE USED FOR VARIABILITY FACTORS: 8-PLANT STUDY, 12-PLANT STUDY, AND PLANTS 267P AND 1753P FROM PUBLIC COMMENTS
PLANT-POLLUTANT COMBINATIONS FOR WHICH VARIANCE OF DETECTED CONCENTRATIONS IS ZERO OR FOR WHICH TWO OR FEWER DETECTS ARE FOUND IN DAILY DATA BASE

POLLUTANT NUMBER	POLLUTANT NAME	PLANT	EFFLUENT SAMPLING SITE	NUMBER OF DETECTS	NUMBER OF NONDETECTS	VARIANCE OF DETECTED CONCENTRATIONS
4	BENZENE	2481F	EFF	2	20	0.048098
4	BENZENE	2631F	EFF	2	22	0.094751
32	PROPYLENE CHLORIDE	2631F	EFF	2	22	0.119829
33	1,3-DICHLOROPROPENE	2631F	EFF	1	23	.
34	2,4-DIMETHYLPHENOL	12F	EFF	3	4	0.000000
39	FLUORANTHENE	1293T	SCE	2	13	0.136094
55	NAPHTHALENE	12F	EFF	1	6	.
65	PHENOL	267P	EFF	2	9	0.010239
65	PHENOL	3033T	BPF	2	10	0.465691
73	BENZO(A)PYRENE	1293T	SCE	1	14	.
74	BENZO-B-FLUORANTHENE	1293T	SCE	1	14	.
84	PYRENE	1293T	SCE	1	14	.
85	PERCHLOROETHYLENE	725T	SCF	2	12	0.105585

MODIFICATION TO DELTA-LOGNORMAL (DLN) DISTRIBUTION FOR VARIABILITY FACTORS -- ESTIMATED LONG-TERM AVERAGES (LTA) FOR MEAN LEVELS
OPTION II TOXICS (BAT SUBCATEGORY ONE)
DAILY DATA BASE USED FOR VARIABILITY FACTORS: 8-PLANT STUDY, 12-PLANT STUDY, AND PLANTS 267P AND 175SP FROM PUBLIC COMMENTS
VARIABILITY FACTOR DEVELOPMENT FOR DAILY DATA BASE

POLLUTANT NUMBER	PLANT	POLLUTANT NAME	POLLUTANT CLASS	EFFLUENT SAMPLING SITE	NUMBER OF OBSERVATIONS	NUMBER OF DETECTS
4	948F	BENZENE	11	EFF	33	5
8	267P	1,2,4-TRICHLOROBENZENE	13	EFF	11	11
10	415T	1,2-DICHLOROETHANE	2	32-A	15	10
10	948F	1,2-DICHLOROETHANE	2	EFF	33	7
10	2631F	1,2-DICHLOROETHANE	2	EFF	24	8
23	415T	CHLOROFORM	1	32-A	15	11
23	2631F	CHLOROFORM	1	EFF	24	15
24	2313T	2-CHLOROPHENOL	21	SCE	10	10
25	267F	1,2-DICHLOROBENZENE (O-DICHLOROBENZENE)	13	EFF	11	6
25	2313T	1,2-DICHLOROBENZENE (O-DICHLOROBENZENE)	13	SCE	10	10
25	2394T	1,2-DICHLOROBENZENE (O-DICHLOROBENZENE)	13	SCE	20	11
26	2313T	1,3-DICHLOROBENZENE (M-DICHLOROBENZENE)	13	SCE	10	10
29	415T	VINYLIDENE CHLORIDE	2	32-A	15	5
31	267F	2,4-DICHLOROPHENOL	21	EFF	11	8
31	2313T	2,4-DICHLOROPHENOL	21	SCE	10	5
32	415T	PROPYLENE CHLORIDE	3	32-A	15	15
32	3033T	PROPYLENE CHLORIDE	3	SPF	12	4
34	3033T	4,4-DIMETHYLPHENOL	19	SPF	12	3
44	267P	DICHLOROMETHANE	1	EE11B	40	25
44	725T	DICHLOROMETHANE	1	SCF	14	9
44	2631F	DICHLOROMETHANE	1	EFF	24	14

POLLUTANT NUMBER	PLANT	NUMBER OF NONDETECTS	MINIMUM LEVEL (PPB)	PROPORTION OF NONDETECTS	LOG MEAN	LOG STANDARD DEVIATION	STUDENTIZED RANGE (U)	DAILY VF -- MODIF. TO DLN METHODOLOGY	4-DAY VF -- MODIF. TO DLN METHODOLOGY
4	948F	28	10	0.848485	4.10363	1.20237	2.88316	15.2282	3.63648
8	267F	0	10	0.000000	3.61527	0.57917	2.89031	3.2532	1.88318
10	415T	5	10	0.333333	3.95455	1.23985	3.29189	9.8155	2.90893
10	948F	26	10	0.787879	2.81769	0.56728	2.66928	3.5888	1.57658
10	2631F	16	10	0.666667	3.44669	1.26044	2.89318	11.2473	3.28021
23	415T	4	10	0.266667	3.22128	0.61198	3.36077	3.8968	1.73798
23	2631F	9	10	0.375000	3.04585	0.83973	3.55166	3.5299	1.64301
24	2313T	0	10	0.000000	3.70997	1.39551	2.92904	9.7058	3.05490
25	267F	5	10	0.454545	3.10786	0.78818	2.89238	5.4794	2.04198
25	2313T	0	10	0.000000	4.39435	0.42608	3.24024	2.4607	1.40244
25	2394T	9	10	0.450000	2.86459	0.26821	3.31838	2.2027	1.34725
26	2313T	0	10	0.000000	3.18237	0.25187	3.32847	1.7406	1.22323
29	415T	10	10	0.666667	3.46794	0.15897	2.47242	2.4723	1.83541
31	267F	6	10	0.545455	3.03177	0.99829	2.38973	7.3653	2.48148
31	2313T	5	10	0.500000	2.98673	0.78224	2.88050	5.3564	2.08209
32	415T	0	10	0.000000	6.16684	0.25213	4.43983	1.7415	1.22349
32	3033T	8	10	0.666667	2.86178	0.20397	2.11198	2.0341	1.29589
34	3033T	9	10	0.750000	3.35859	0.30382	1.96775	3.2565	1.89976
44	267P	15	10	0.375000	3.93352	0.93062	4.10468	7.8937	2.41478
44	725T	5	10	0.357143	3.42914	0.28705	3.69582	2.3668	1.48 30
44	2631F	10	10	0.416667	2.66989	0.31169	3.92621	2.1470	1.38547

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MODIFICATION TO DELTA-LOGNORMAL (DLN) DISTRIBUTION FOR VARIABILITY FACTORS -- ESTIMATED LONG-TERM AVERAGES (LTA) FOR MEAN LEVELS
OPTION II TOXICS (BAT SUBCATEGORY ONE)
DAILY DATA BASE USED FOR VARIABILITY FACTORS: 6-PLANT STUDY, 12-PLANT STUDY, AND PLANTS 267P AND 1753P FROM PUBLIC COMMENTS
VARIABILITY FACTOR DEVELOPMENT FOR DAILY DATA BASE

POLLUTANT NUMBER	PLANT	POLLUTANT NAME	POLLUTANT CLASS	EFFLUENT SAMPLING SITE	NUMBER OF OBSERVATIONS	NUMBER OF DETECTS	NUMBER OF NONDETECTS
57	2394T	2-NITROPHENOL	20	SCE	20	10	10
59	2394T	2,4-DINITROPHENOL	20	SCE	20	20	0
65	12F	PHENOL	19	EFF	7	4	3
65	948F	PHENOL	19	EFF	33	3	30
65	2394T	PHENOL	19	SCE	20	20	0
66	948F	BIS-(2-ETHYLHEXYL) PHTHALATE	16	EFF	33	26	7
68	948F	DI-N-BUTYL PHTHALATE	16	EFF	33	10	23
70	948F	DIETHYL PHTHALATE	16	EFF	33	24	9
81	2313T	PHENANTHRENE	12	SCE	10	9	1
86	948F	TOLUENE	11	EFF	32	10	22

POLLUTANT NUMBER	PLANT	MINIMUM LEVEL (PPB)	PROPORTION OF NONDETECTS	LOG MEAN	LOG STANDARD DEVIATION	STUDENTIZED RANGE (U)	DAILY VF -- MODIF. TO DLN METHODOLOGY	4-DAY VF -- MODIF. TO DLN METHODOLOGY
57	2394T	20	0.500000	3.87654	0.29168	3.09536	2.49725	1.46430
59	2394T	50	0.000000	4.56776	0.42560	2.96828	2.45842	1.40190
65	12F	10	0.428571	2.94054	0.10034	2.00000	1.54302	1.26085
65	948F	10	0.909091	2.47828	0.13923	1.73205	1.38836	1.08747
65	2394T	10	0.000000	3.77014	0.78448	3.51577	4.55978	1.86974
66	948F	10	0.212121	3.58462	0.88643	3.18407	5.91768	2.17027
68	948F	10	0.696970	2.88290	0.46634	3.52780	3.23768	1.51824
70	948F	10	0.272727	2.94655	0.75536	3.78918	4.75961	1.89895
81	2313T	10	0.100000	2.77323	0.94303	2.52329	5.89125	2.15638
86	948F	10	0.687500	3.16425	1.00411	3.14408	7.95058	2.57382

The waste loadings data presented in Tables V-21 through V-23 for 34 plants are only concentrations. To permit meaningful analysis, statistical summary data should be presented for the mass loadings from each of the 34 plants.

The estimated waste loadings for the 988 OCPSF plants given in Section V of the BAT development document are for the sum of the priority pollutants. Estimated loadings should be presented for each individual pollutant or at least for two subgroups, organics and metals.

d. Pesticides exclusion

It is unclear which provision of Paragraph 8(a)(iii) is being advanced to justify exclusion of 18 pesticides from regulation. EPA states in the development document that these pesticides "may appear in discharges that contain OCPSF effluents only," but claims that "this results from the application of pesticide formulations around the plant grounds." The proposed regulation, however, states that pesticides found in end-of-pipe effluent "are most likely attributable to intake water used in the process or to pesticide formulations that were being applied around the plant grounds. . ." 48 Fed. Reg. at 11837 (emphasis added). EPA should clarify the basis for excluding regulation of these pesticides and the source of the supporting data, if any.

e. Derivation of variability factors

CMA Plant 2 was deleted from EPA's calculation of variability factors because none of the effluent values exceeded 10 parts per billion. The deletion is unjustified because the

consistently low effluent concentrations reflect low variability, and deleting this plant therefore falsely increases the calculated variability.

3. Pretreatment

a. Definition of pass-through

EPA deleted 43 pollutants on the basis of a definition of "pass-through" that apparently did not include examination of upsets, inhibitions, or sludge contamination. Cadmium should be but was not regulated for these problems. In contrast, the pesticides guideline proposed regulation of the same pollutants for directs and indirects.

b. Pass-through calculation

EPA defined pass-through as POTW removal 5 percent or more less than that achieved by BAT. A fixed 5 percent test may be inappropriate because 5 percent may be a large or small percentage of raw waste load removal depending on the level at which BAT is set. Moreover, there is no basis for the 5 percent difference between removal rates. As EPA recognizes in the BAT development document, actual BAT removal rates are probably greater than those reported because of the location of BAT sampling points prior to biological treatment (p. VI-8). The pass-through test should reflect this and require POTW greater than required by BAT to avoid pass-through. The comparison of the 50 POTW and OCPSF database is also statistically inconsistent as performed because one study was based on the median of plant removal efficiencies, whereas the other was based on the median of influent/effluent pairs.